

El Alear Condominiums

PROJECT OVERVIEW

MAPEI's *Ultraflex LFT* mortar and *Ultracolor Plus* grout were used to install 400,000 sq. ft. (37 161 m²) of large-format sandstone tiles on the facade of a luxury condominium complex in Monterrey, Mexico.



PROJECT INFORMATION

Project Category:	Residential – Condominium
MAPEI Sales Rep:	Juan Isaac Gutierrez
Project Owner:	El Alear Condominiums
MAPEI Distributor:	Comercial de Materiales Aux.
General Contractor:	Postensados y Diseños de Estructuras S.A. de C.V.
Installer Company:	El Alear Condominiums
Original Designer:	Dr. Esteban Astudillo
Architect:	Agustín Landa Ruiloba
Photographer:	Juan Isaac Gutierrez
Project Size:	500,000 sq. ft. (46 451m ²) total (400,000 sq. ft. [37 161 m ²] facade)



MAPEI PRODUCTS USED

- *Ultraflex™ LFT™*
- *Ultracolor® Plus*
- *Mapeguard™ 2*
- *Ultraflex 2*



El Alear Condominiums – Monterrey, Mexico

Upscale Urban Lifestyle Elegantly Displayed in Mexico

San Pedro Garza Garcia is one of the wealthiest neighborhoods in the metro area of Monterrey, the third largest city in Mexico. Families in San Pedro have lived there for many years – even centuries. As the newest generations wish to settle near their friends and relatives, and have all of the modern amenities, they have turned to apartment/condominium-style living.

The El Alear Condominiums have met these tenants' needs with elegance and beauty. The project, designed by Dr. Esteban Astudillo and architect Agustín Landa Ruiloba, is composed of four connected buildings that house a total of 46 exclusive luxury condominiums, with a separate lobby for each of the buildings.

The entire facade of the condominium buildings is covered in large-format Chinese limestone (3.28' [1 m] long x 19" [50 cm] wide x 0.78" [2 cm] thick) with a fiberglass-reinforced backing. Two colors of the limestone – Silk Georgette and Brown Serpeggiante – were selected by the owner's representative and were imported to Mexico by Marmoles Arca of Monterrey. Each stone tile weighs approximately 40 lbs. (18,1 kg) and has a honed finish. The installers protected the surface of the stones with a penetrating sealer before they were set in place.

Tiling the 400,000 sq. ft. (37 161 m²) of the facade was a challenge because Monterrey has a very hot and very windy climate, so the installers had to work quickly. The work took place from January 2013 to January 2014. The primary installation process used mortar and grout, which was supplemented with mechanical anchoring of each stone as an increased safety precaution for the nearly 40-lb. (18,1-kg) tiles. The tiles were adhered to a concrete substrate.

MAPEI products at work on the project

The installation of the large-format tiles required a superior adhesive with excellent bond strength. MAPEI's **Ultraflex LFT** large-format tile mortar and two other competitive mortars were considered for the installation. One of the products did not completely meet the architectural specifications, which narrowed the decision to two mortars. "Pull" tests were performed onsite by the engineering department of the local university Universidad Autónoma de Nuevo León (UANL) to measure bond strength. The purpose of the test is to measure the maximum tensile strength of tile on concrete. The test sample is subjected to increasing tensile stress until failure occurs. The weakest path could be along an interface between two layers or a cohesive fracture within one layer, or a combination of these.

The competitive product failed at 2,100 lbs. (952 kg), but **Ultraflex LFT** reached a force of 4,000 lbs. (1 814 kg). At this point, **Ultraflex LFT** had reached the maximum limits of the testing machine's capabilities without being pulled off, and the university technicians ended the test. Because of the superior results, **Ultraflex LFT** was selected for the installation.

Another challenge that was solved through the use of **Ultraflex LFT** was the issue of the flatness of the exterior surface. The plumb of the wall was not always straight over the entire 10-story height of the building, creating a need for a medium-bed mortar that could, within limits, compensate for irregularities in the flatness of the extended surface. Using **Ultraflex LFT** allowed the installers to create a smooth, flush look to the tiles all along the installation.

Efflorescence frequently occurs after a new tile or natural stone installation has been completed, and is often seen along the grout lines. Specially formulated **Ultracolor Plus** rapid-setting floor and wall grout contains no Portland cement, thus virtually eliminating common problems related to typical grouts such as mottling, color inconsistency and efflorescence. For this reason, the installers used **Ultracolor Plus** to grout the 400,000 sq. ft. (37 161 m²) of limestone facade.

Each of the buildings is designed to have only one single apartment per floor. Two elevators and a set of service stairs provide access to each apartment. None of the apartments look into each other, thus affording complete privacy. As each apartment is sold, the owners get to choose their own finishes. For those who chose tile, whether just for the bathrooms or for all floors in the apartment, the tiles were set with **Ultraflex 2** mortar as specified by El Alear. **Mapeguard 2** sheet membrane was installed for soundproofing between floors above ground level. The bathrooms were treated with **Mapelastic AquaDefense** membrane for waterproofing.

In the striking lobbies of each building, as well as other common areas, porcelain stone tiles were also set with **Ultraflex 2**.

When the project was completed, the installers had created a world of comfort, beauty and luxury for the inhabitants of El Alear Condominiums.

